08827 2TH6H260

FIG. 1
BACKGROUND ART

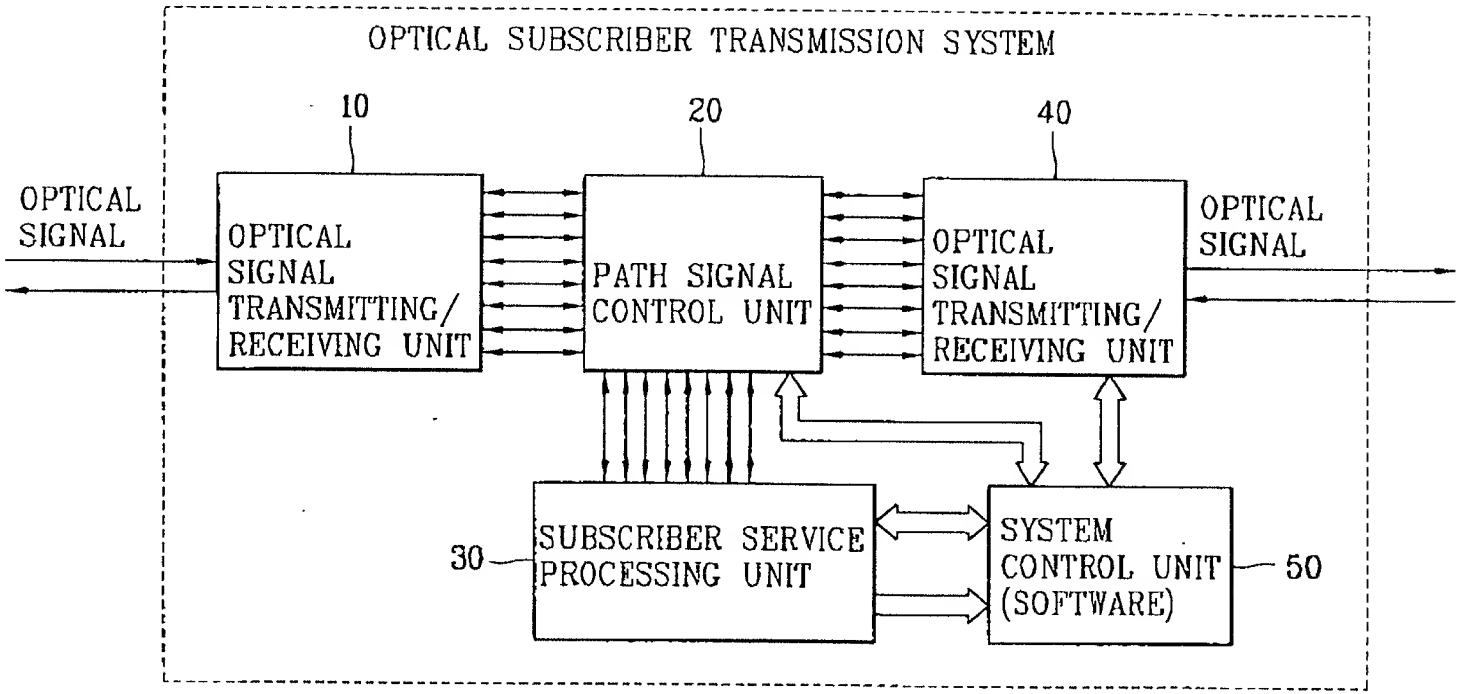


FIG. 2
BACKGROUND ART

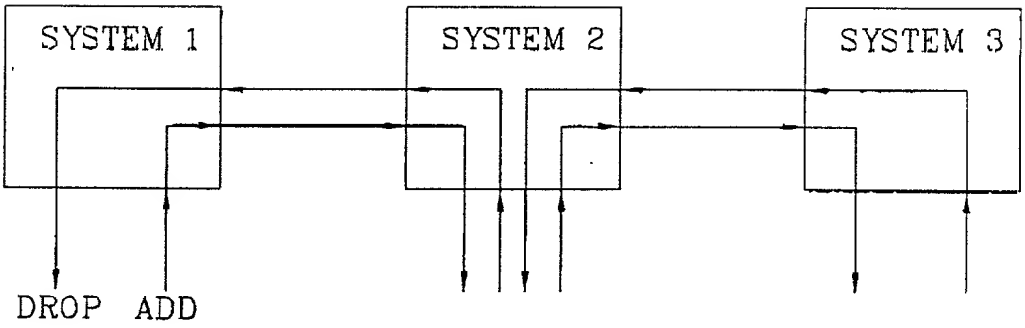


FIG. 3A
BACKGROUND ART

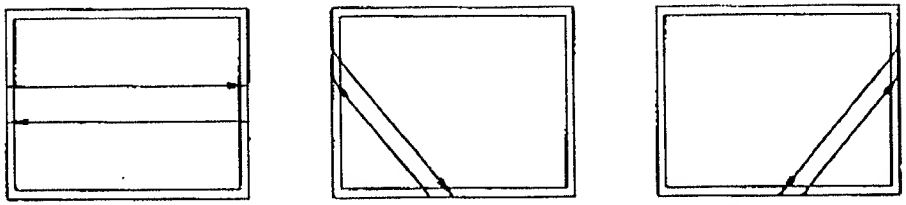


FIG. 3B
BACKGROUND ART

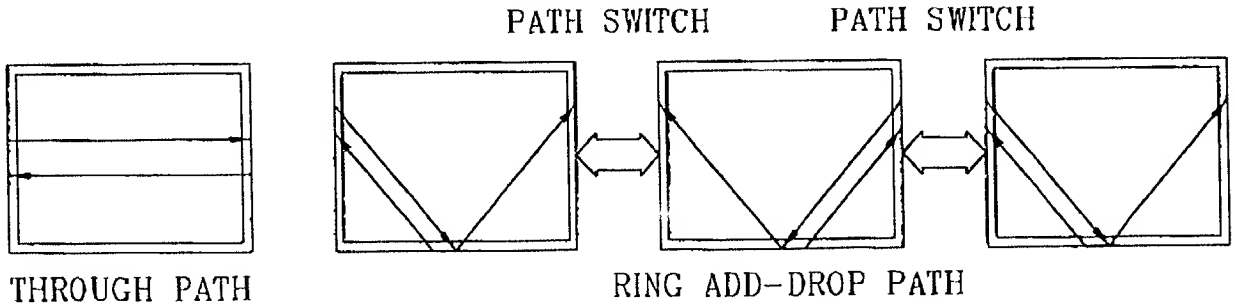


FIG. 4A

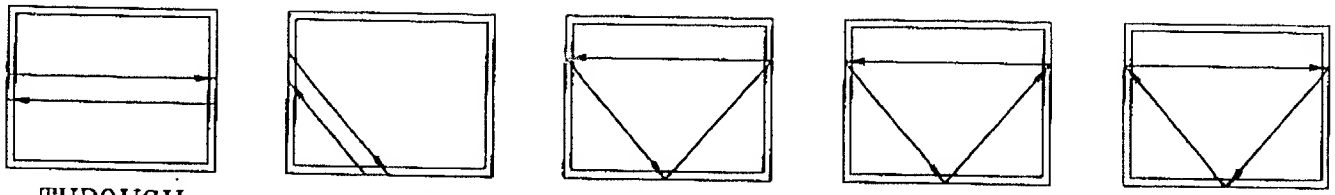

THROUGH PATH
ADD-DROP PATH
ADD-DROP & THROUGH PATH

FIG. 4B

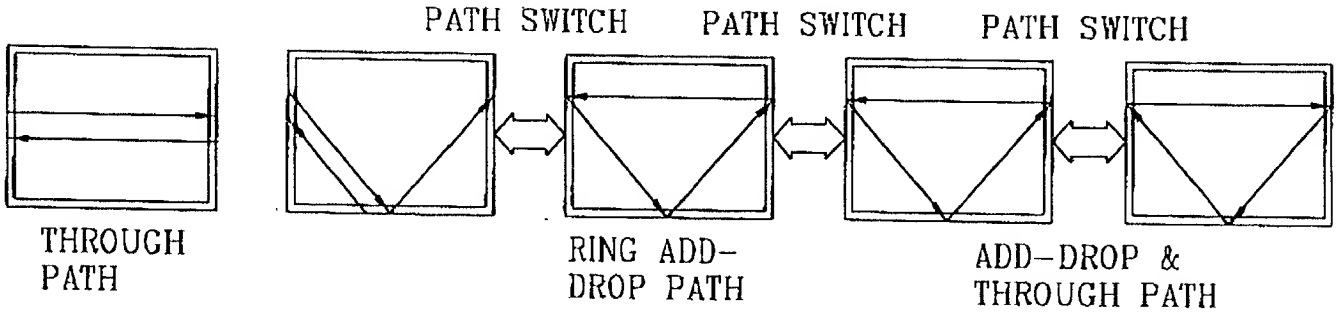

PATH SWITCH
PATH SWITCH
PATH SWITCH
THROUGH PATH
RING ADD-DROP PATH
ADD-DROP & THROUGH PATH

FIG. 5

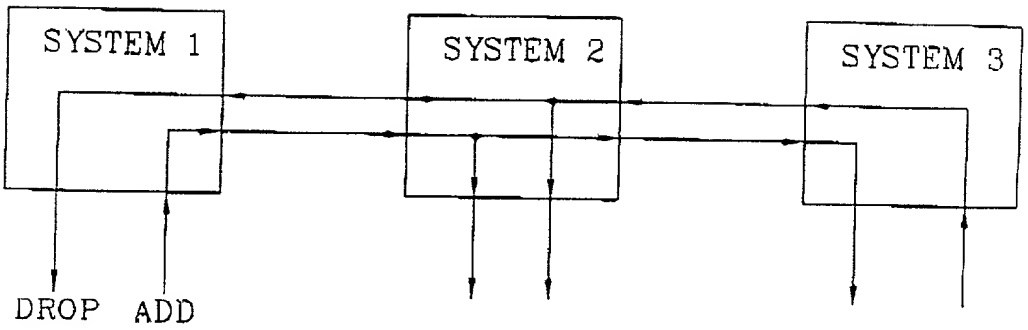
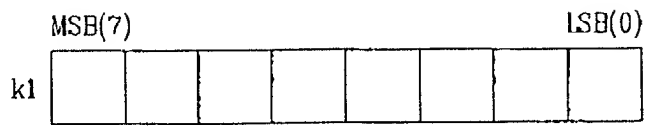
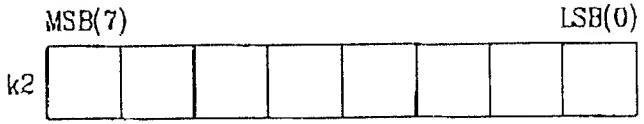


FIG. 6





Request: B1[7:4]

- 0000: No Request
- 0001: Reverse Request(Switch)
- 0010: Reverse Request(Round)
- 0011: reserved
- 0100: reserved
- 0101: reserved
- 0110: Manual Switch(Switch)
- 0111: reserved
- 1000: reserved
- 1001: reserved
- 1010: reserved
- 1011: Signal Fail(Switch)
- 1100: Signal Fail(Round)
- 1101: reserved
- 1110: reserved
- 1111: reserved

Destination ID: B1[3:0]

- 0x00-0x0F

Status: B2[7:5]

- 0000: Idle
- 0001: Switch
- 0010: Round
- 0011: reserved
- 0100: reserved
- 0101: reserved
- 0110: Manual Switch
- 0111: reserved
- 1000: reserved
- 1001: reserved
- 1010: reserved
- 1011: RDI(Remote Defect Indication)(Line/Path)
- 1100: SP(Signal Fail)(Line/Path)
- 1101: reserved
- 1110: reserved
- 1111: reserved

Destination ID: B1[3:0]

- 0x00-0x0F

FIG. 7

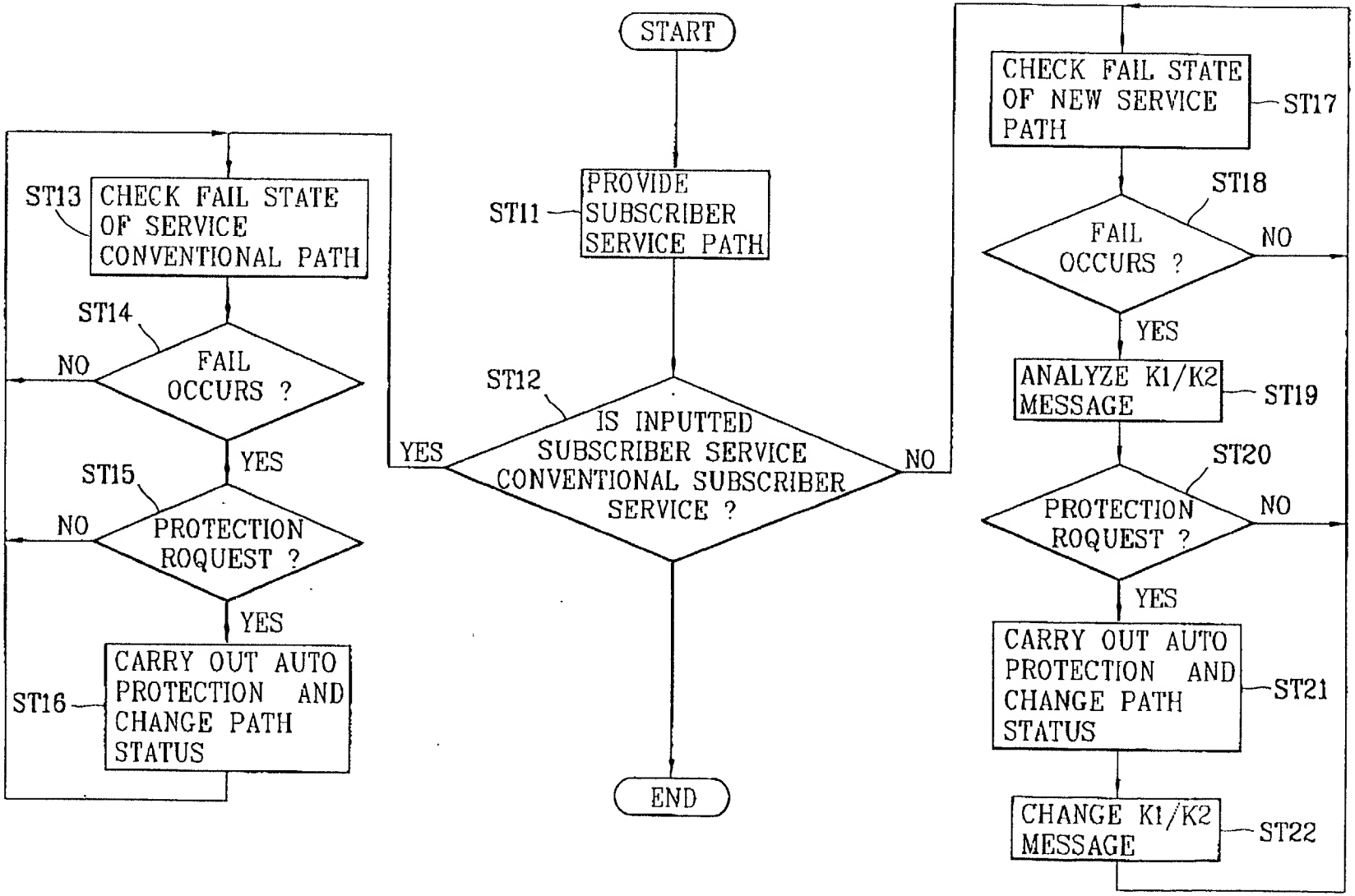

START
ST11
PROVIDE SUBSCRIBER SERVICE PATH
ST12
IS INPUTTED SUBSCRIBER SERVICE CONVENTIONAL SUBSCRIBER SERVICE ?
YES
NO
END
ST13
CHECK FAIL STATE OF SERVICE CONVENTIONAL PATH
ST14
FAIL OCCURS ?
NO
YES
ST15
PROTECTION ROQUEST ?
NO
YES
ST16
CARRY OUT AUTO PROTECTION AND CHANGE PATH STATUS
ST17
CHECK FAIL STATE OF NEW SERVICE PATH
ST18
FAIL OCCURS ?
NO
YES
ST19
ANALYZE K1/K2 MESSAGE
ST20
PROTECTION ROQUEST ?
NO
YES
ST21
CARRY OUT AUTO PROTECTION AND CHANGE PATH STATUS
ST22
CHANGE K1/K2 MESSAGE

FIG. 8A

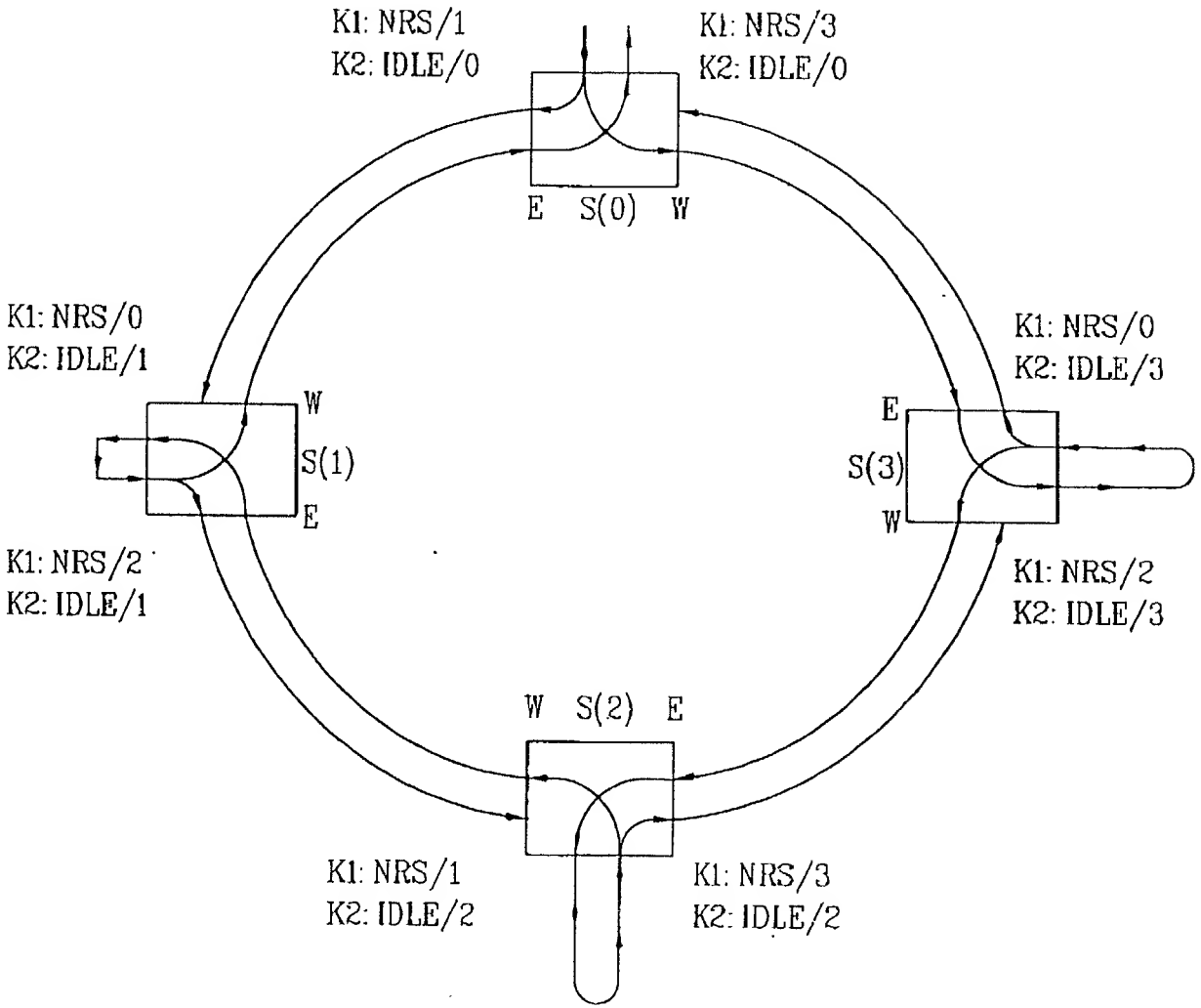

K1: NRS/1
K2: IDLE/0
K1: NRS/3
K2: IDLE/0
E S(0) W
K1: NRS/0
K2: IDLE/1
W
S(1)
E
K1: NRS/2
K2: IDLE/1
K1: NRS/0
K2: IDLE/3
E
S(3)
W
K1: NRS/2
K2: IDLE/3
W S(2) E
K1: NRS/1
K2: IDLE/2
K1: NRS/3
K2: IDLE/2

FIG. 8B

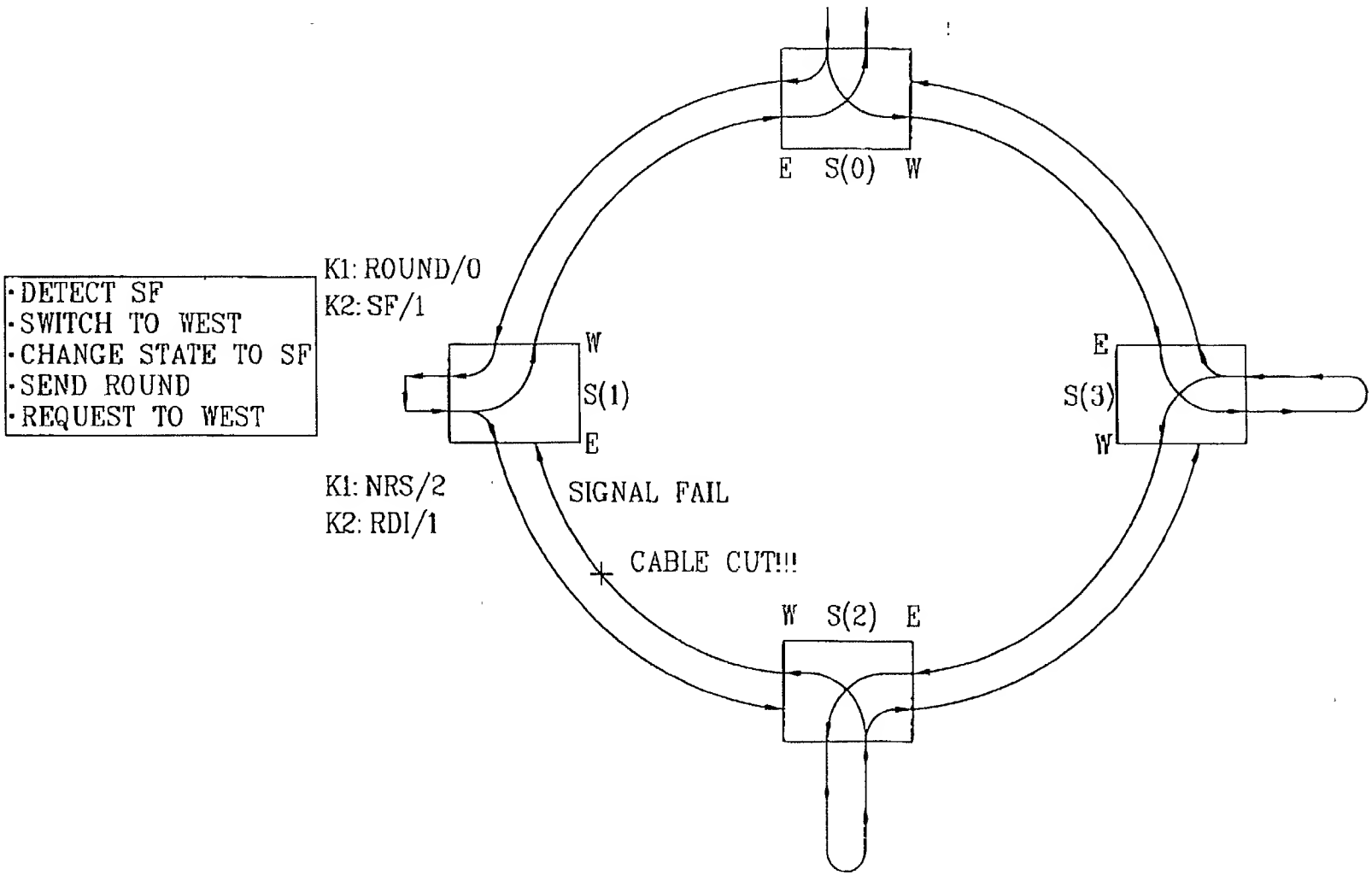

· DETECT SF
· SWITCH TO WEST
· CHANGE STATE TO SF
· SEND ROUND
· REQUEST TO WEST
K1: ROUND/0
K2: SF/1
K1: NRS/2
K2: RDI/1
E S(0) W
W S(1) E
E S(3) W
W S(2) E
SIGNAL FAIL
CABLE CUT!!!

FIG. 8C

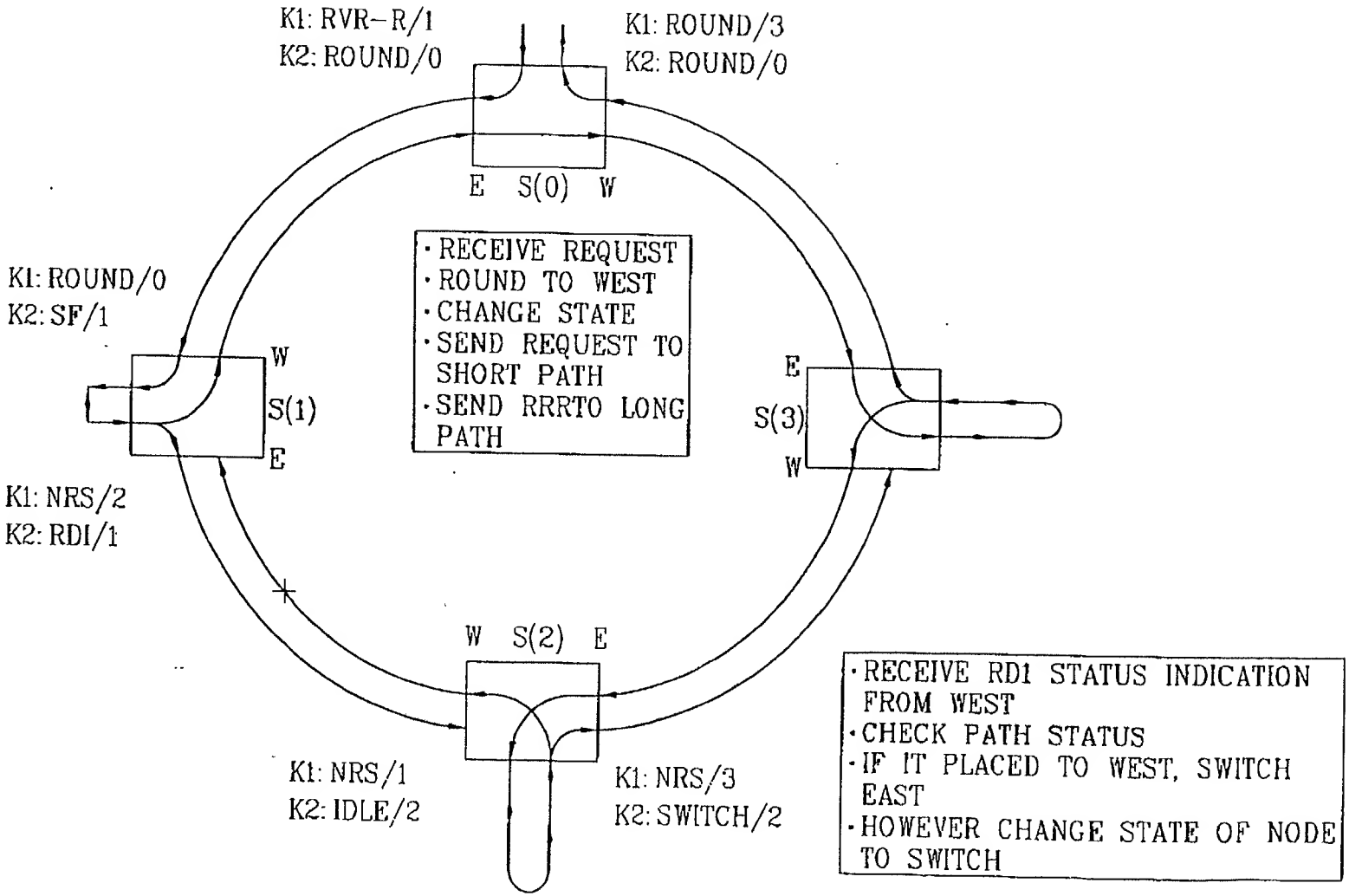

K1: RVR-R/1
K2: ROUND/0
K1: ROUND/3
K2: ROUND/0
E S(0) W
· RECEIVE REQUEST
· ROUND TO WEST
· CHANGE STATE
· SEND REQUEST TO SHORT PATH
· SEND RRRTO LONG PATH
K1: ROUND/0
K2: SF/1
W
S(1)
E
E
S(3)
W
K1: NRS/2
K2: RDI/1
W S(2) E
K1: NRS/1
K2: IDLE/2
K1: NRS/3
K2: SWITCH/2
· RECEIVE RDI STATUS INDICATION FROM WEST
· CHECK PATH STATUS
· IF IT PLACED TO WEST, SWITCH EAST
· HOWEVER CHANGE STATE OF NODE TO SWITCH

FIG. 8D

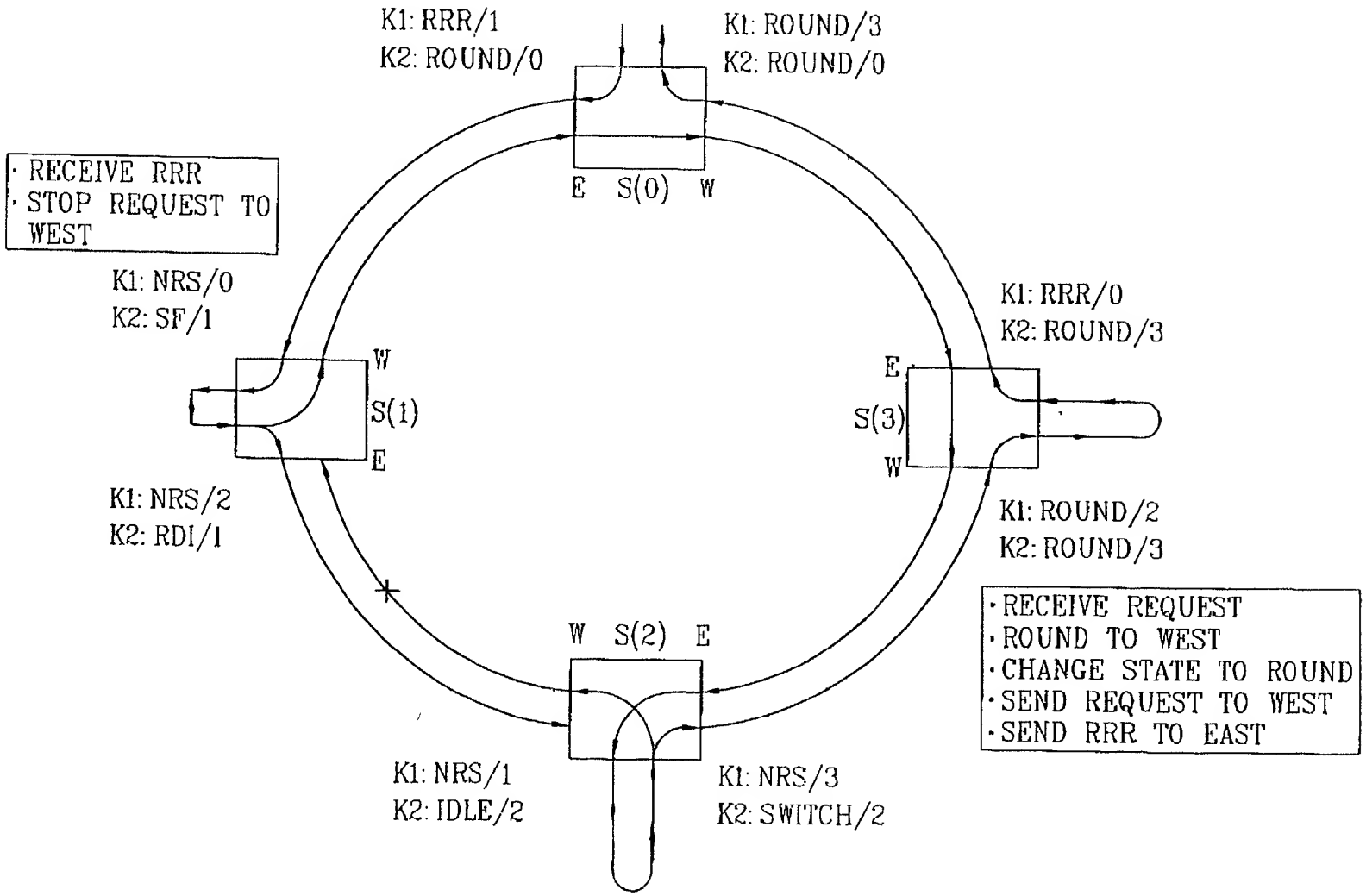
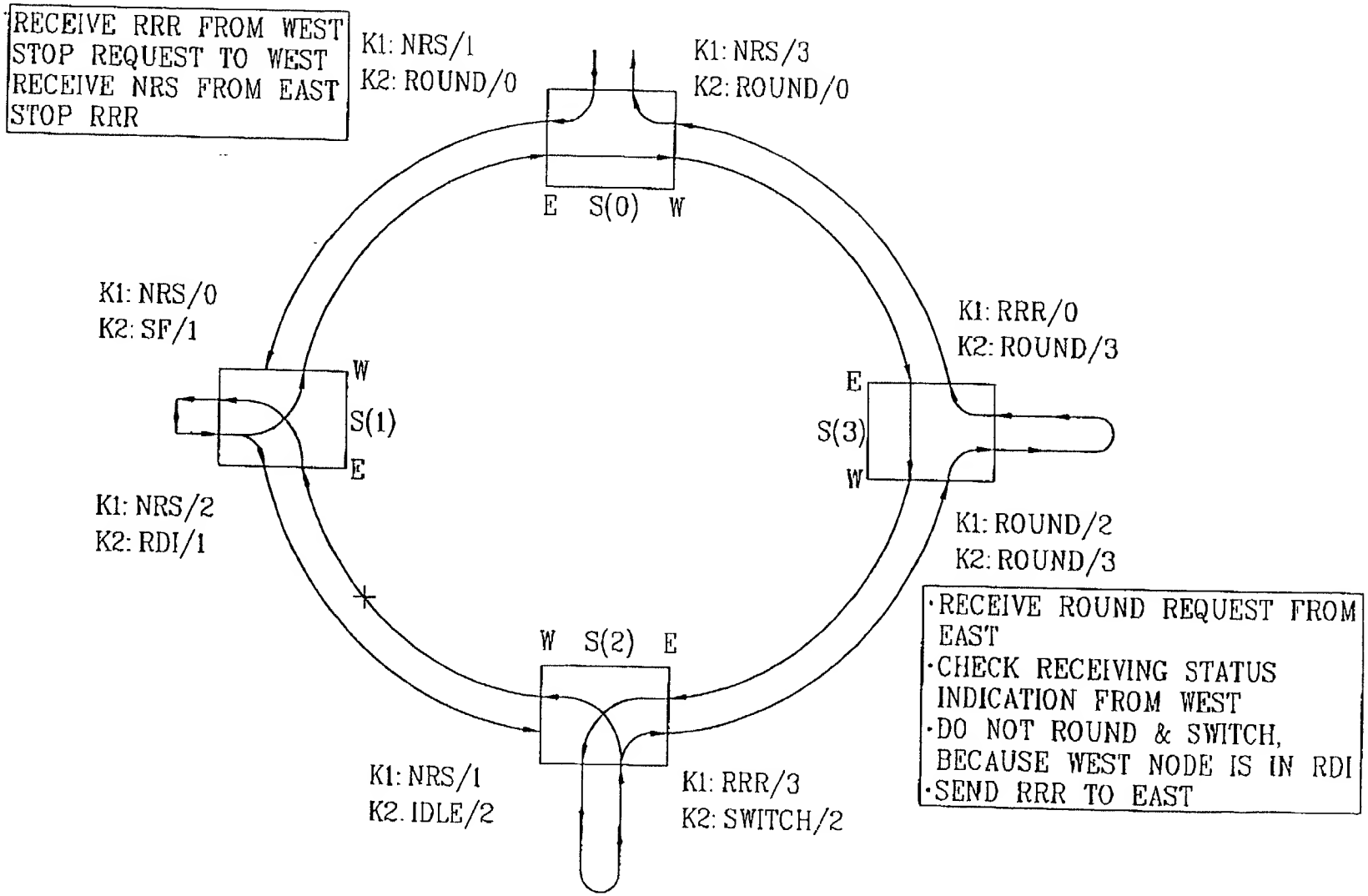

K1: RRR/1
K2: ROUND/0
K1: ROUND/3
K2: ROUND/0
E S(0) W
· RECEIVE RRR
· STOP REQUEST TO WEST
K1: NRS/0
K2: SF/1
W
S(1)
E
K1: NRS/2
K2: RDI/1
K1: RRR/0
K2: ROUND/3
E
S(3)
W
K1: ROUND/2
K2: ROUND/3
· RECEIVE REQUEST
· ROUND TO WEST
· CHANGE STATE TO ROUND
· SEND REQUEST TO WEST
· SEND RRR TO EAST
W S(2) E
K1: NRS/1
K2: IDLE/2
K1: NRS/3
K2: SWITCH/2

FIG. 8E


RECEIVE RRR FROM WEST
STOP REQUEST TO WEST
RECEIVE NRS FROM EAST
STOP RRR
K1: NRS/1
K2: ROUND/0
K1: NRS/3
K2: ROUND/0
E S(0) W
K1: NRS/0
K2: SF/1
W
S(1)
E
K1: NRS/2
K2: RDI/1
K1: RRR/0
K2: ROUND/3
E
S(3)
W
K1: ROUND/2
K2: ROUND/3
W S(2) E
K1: NRS/1
K2. IDLE/2
K1: RRR/3
K2: SWITCH/2
·RECEIVE ROUND REQUEST FROM EAST
·CHECK RECEIVING STATUS INDICATION FROM WEST
·DO NOT ROUND & SWITCH, BECAUSE WEST NODE IS IN RDI
·SEND RRR TO EAST

Substitute Sheet

FIG. 8F

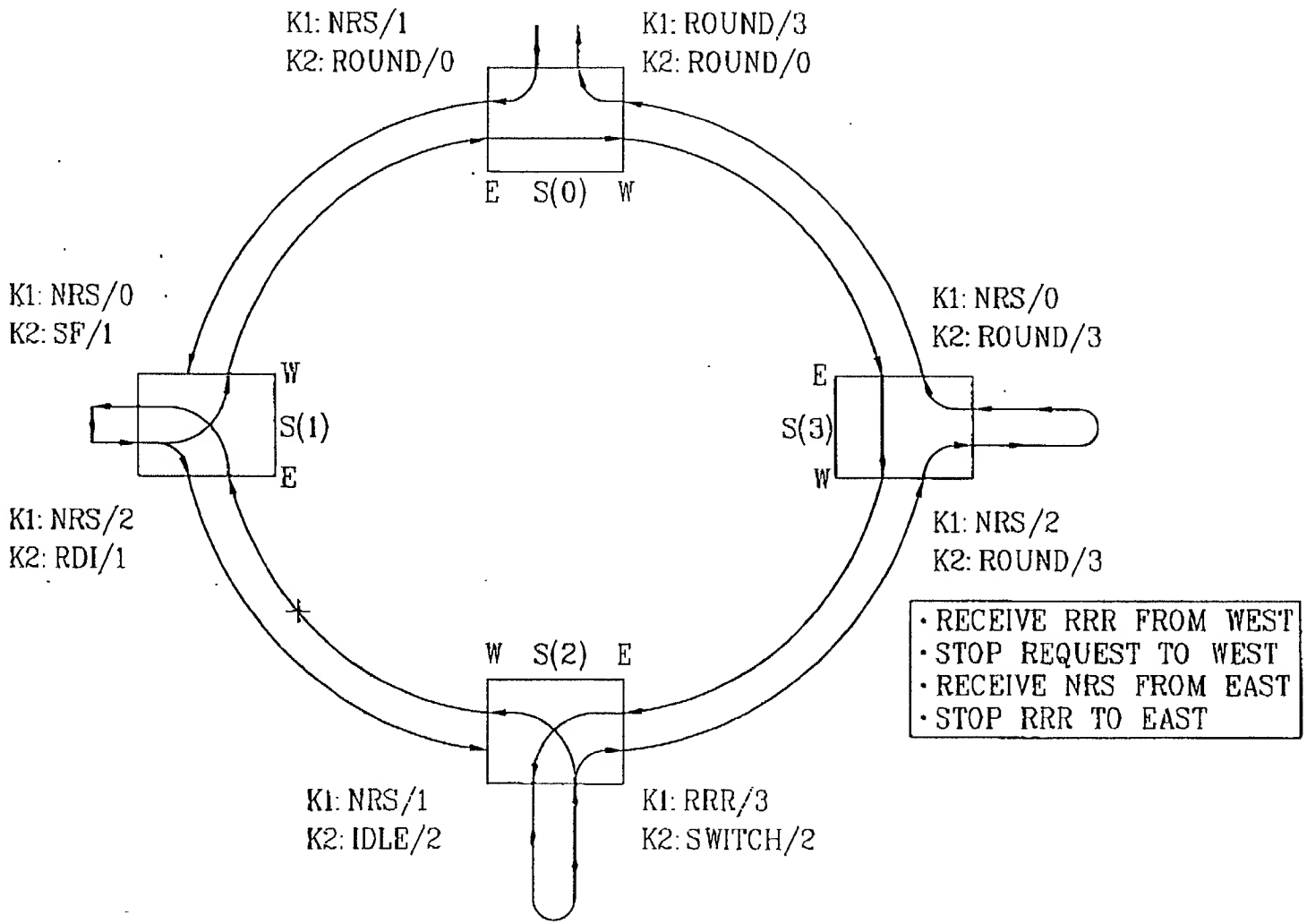
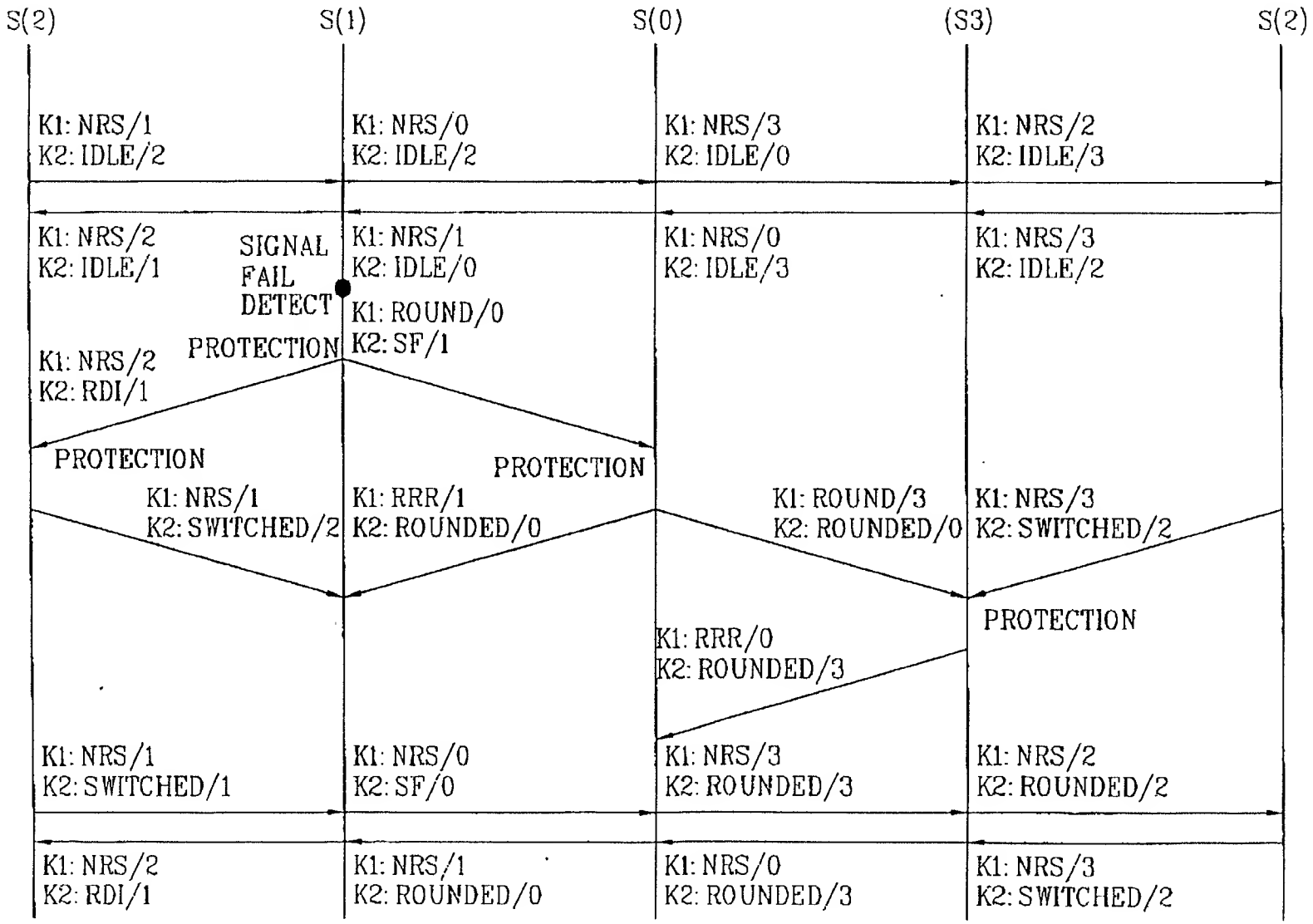


FIG. 9


S(2)
S(1)
S(0)
(S3)
S(2)
K1: NRS/1
K2: IDLE/2
K1: NRS/0
K2: IDLE/2
K1: NRS/3
K2: IDLE/0
K1: NRS/2
K2: IDLE/3
K1: NRS/2
K2: IDLE/1
SIGNAL FAIL DETECT
K1: NRS/1
K2: IDLE/0
K1: NRS/0
K2: IDLE/3
K1: NRS/3
K2: IDLE/2
K1: ROUND/0
K2: SF/1
PROTECTION
K1: NRS/2
K2: RDI/1
PROTECTION
PROTECTION
K1: NRS/1
K2: SWITCHED/2
K1: RRR/1
K2: ROUNDED/0
K1: ROUND/3
K2: ROUNDED/0
K1: NRS/3
K2: SWITCHED/2
PROTECTION
K1: RRR/0
K2: ROUNDED/3
K1: NRS/1
K2: SWITCHED/1
K1: NRS/0
K2: SF/0
K1: NRS/3
K2: ROUNDED/3
K1: NRS/2
K2: ROUNDED/2
K1: NRS/2
K2: RDI/1
K1: NRS/1
K2: ROUNDED/0
K1: NRS/0
K2: ROUNDED/3
K1: NRS/3
K2: SWITCHED/2